



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/069,974  
Applicant : RAUTH et al.  
Filed : July 9, 2002  
TC/A.U. : 1623  
Examiner : Traviss C. McIntosh

Docket No. : 2923-477  
Customer No. : 6449  
Confirmation No. : 9408

**AMENDMENT UNDER 37 CFR 1.111**

Director of the United States Patent  
and Trademark Office  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

August 2, 2005

Sir:

In the Office Action dated May 5, 2005, claims 70 and 71, in the above-identified U.S. patent application were rejected. Reconsideration of the rejections is respectfully requested in view of the following remarks. Claims 1-44 and 72-89 have been canceled and claims 45-71 remain in the application.

Claims 70 and 71 were rejected under 35 USC §102(b) as anticipated by Hawkins. Applicants respectfully point out that claim 70 requires a solid phase which has hydrophobic groups which bind nucleic acids and hydrophilic groups which prevent agglomeration, on its surface. Hawkins acknowledges the importance of functional groups coating the surface of the microparticles at column 3, lines 56-59. Hawkins observes that the hydrophobic surface of polymer encapsulated magnetic microparticles lacking functional groups does not bind DNA. Consequently, the surface of the microparticles derived from

derivatization of the polymers according to Hawkins must be exclusively hydrophilic. In other words, the hydrophobic group in Hawkins is below the "surface" of the molecule. This is in contrast to the subject matter of the present invention which teaches the co-existence of hydrophobic and hydrophilic groups on the surface of the microparticle.


Applicants point out that the hydrophobic and hydrophilic groups according to the present invention co-exist in different molecules on the surface of the microparticle. Contrary to statements made in the office action that Hawkins' hydrophobic and hydrophilic groups inherently have the same properties as the present invention, applicants point out that Hawkins' original polymeric surface is hydrophobic. Therefore the introduction of hydrophilic carboxyl groups by derivatization would result in hydrophobic polymer chains with a hydrophilic moiety at the end of each molecule, thus generating a hydrophilic surface and a hydrophobic intermediate layer (which cannot bind nucleic acids). Such a surface is clearly different from the distribution of hydrophobic and hydrophilic groups according to the present invention. The present application teaches a surface consisting of molecules comprising exclusively (a) a hydrophobic moiety at the surface of the microparticle and (b) a hydrophilic moiety at the surface of the microparticle. Hawkins discloses hydrophobic groups (if polymer chains are defined as hydrophobic groups) only within an intermediate layer and not at the microparticle's surface, which is exclusively coated with hydrophilic groups. Since claim 70 in the present application requires the solid phase to have both hydrophobic and hydrophilic

groups on its surface and that the hydrophobic groups bind nucleic acids, applicants contend that claims 70 and 71 are not anticipated by Hawkins and request that this rejection be withdrawn.

Applicants respectfully submit that all of claims 45-71 are now in condition for allowance. If it is believed that the application is not in condition for allowance, it is respectfully requested that the undersigned attorney be contacted at the telephone number below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Any fee for such an extension together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

By   
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